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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,698	09/26/2001	Makoto Misaka	1232-4767	6446

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EXAMINER

NGUYEN, THONG Q

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 05/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/966,698

Applicant(s)

MISAKA, MAKOTO

Examiner

Thong Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: .

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The formal drawings contain 29 sheets of figures 1-29, filed on 09/26/2001 have been received by the Office.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 5 and 7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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a) Claim 5 is rejected under 35 USC 112, first paragraph for the following reason.

The claim recites a condition governing the relationship between the focal length of the negative lens used as the compensating lens and the focal length of the fourth lens group. While the specification disclose data concerning the optical characteristics of the lens elements in the zoom lens system and the result of such relationship, see Table 1 in page 23. However, since the Office does not have the software for calculating the focal lengths of the lens element(s)/group(s) from the data provided in the specification; therefore, it is unclear whether the condition claimed has supported from the data provided in the specification or not. Applicant can provide an incorporate with the Office by inserting the value of the focal lengths of the each lens group and the compensating lens into the specification so that the condition claimed will clearly be supported.

b) Claim 7 is rejected for the similar reason as set forth in element a) above.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 1 is rejected under 35 USC 112, second paragraph by the recitation thereof "wherein said zoom lens...decreases" (lines 4-9). In other words, it is unclear how the distance between two adjacent lens units is variable when only one predetermined lens unit is moved. Should "unit" (line 5) be changed to

--units-- to make clear the feature claimed? Further, the feature thereof "wherein an image...optical axis" (lines 9-10) is unclear due to the claim language being used inaccurate. In other words, what does applicant mean by "moving at least part of the fourth lens unit so as to have a component of a direction perpendicular to an optical axis"? Should the mentioned feature be changed to -- moving at least part of the fourth lens unit in a direction perpendicular to an optical axis of said zoom lens -- to make clear the feature claimed?

b) Claim 4/3 is unclear by the limitation concerning the lens having negative power. In other words, the claim 3 recites a negative lens (see claim 3, lines 2-3); however, claim 4 recites another negative lens (see claim 4, lines 2-3). As such, it is unclear how many negative lens element(s) does the fourth lens unit have. Applicant should note that if the negative lens of claim 4/3 is identical to that of claim 3, then "a lens component" (claim 4, line 2) should be changed to -- said lens component --.

c) Claim 9 is rejected under 35 USC 112, second paragraph for the similar reasons as listed in element a) above.

d) The remaining claims are dependent upon the rejected base claims and thus inherit the deficiencies thereof.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 9, as best as understood, are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Suzuki (U.S. Patent No. 6,025,962).

See Suzuki, the first and second embodiments as provided in columns 1-3 and 14-16.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Yamamoto (U.S. Patent No. 6,008,952).

Suzuki discloses a zoom lens system for use with an optical apparatus (see columns 1-2) wherein the zoom lens system comprises five lens units arranged in an order from an object side as follow: a first positive lens unit, a second negative lens unit, a third positive lens unit, a fourth negative lens unit and a fifth positive lens unit. In a zooming process from a wide angle to a telephoto position, the distance between the first and second lens units is increased; the distance between the second and third lens units is decreased; the distance between the third and fourth lens units is increased; and the distance between the fourth and fifth lens units is decreased. In an image stabilization process, the fourth lens unit

is moved in a direction perpendicular to the optical axis of the zoom lens system. See figures 1 and 4 and columns 14-16. While in columns 1-2, Suzuki stated that the zoom lens system is used in an electronic imaging device; he does not clearly state that a photoelectric conversion element is disposed for receiving the image provided by the zoom lens. However, such use of a photoelectric conversion element for receiving an image provided by the zoom lens is considered as an inherent feature from the system provided by Suzuki. If it is not inherent then the use of an optical apparatus having a zoom lens of five lens units and a charged-coupled device located to receive the image provided by the zoom lens is clearly disclosed in the art of Yamamoto. See column 1, for example. Thus, it would have been obvious to one skilled in the art at time the invention was made to utilize a charged-coupled device positioned after a zoom lens as suggested by Yamamoto in the optical apparatus having a zoom lens with image compensating function of Suzuki for the purpose of receiving the image formed by the zoom lens.

12. Claims 3-4, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Yamazaki (U.S. Patent No. 5,000,549).

Suzuki discloses a zoom lens system for use with an optical apparatus (see columns 1-2) wherein the zoom lens system comprises five lens units arranged in an order from an object side as follow: a first positive lens unit, a second negative lens unit, a third positive lens unit, a fourth negative lens unit and a fifth positive lens unit. In a zooming process from a wide angle to a telephoto position,

the distance between the first and second lens units is increased; the distance between the second and third lens units is decreased; the distance between the third and fourth lens units is increased; and the distance between the fourth and fifth lens units is decreased. In an image stabilization process, the fourth lens unit is moved in a direction perpendicular to the optical axis of the zoom lens system. See figures 1 and 4 and columns 14-16. While Suzuki discloses that the fourth lens unit is moved for compensating image vibrations, he does not disclose that only the negative lens component of the fourth lens unit is moved for compensating image vibrations.

The use of a lens unit having two lens subunits wherein the whole lens unit or one lens subunit is moved in a direction perpendicular to the optical axis of the zoom lens for compensating image vibrations is known to one skilled in the art as can be seen in the zoom lens system provided by Yamazaki. Even though the zoom lens system provided by Yamazaki is a two-lens units zoom lens; however, in the lens unit selected as the compensating lens unit, Yamazaki teaches that the whole lens unit or just a part of the lens unit can be used as a compensation lens element. The part of the lens unit to be moved can be a negative lens subunit (I-1) or a positive lens subunit (I-2). See column 3 and figs. 1-3. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the five-unit zoom lens of Suzuki by decentering/moving only the part of lens component having negative power as suggested by Yamazaki for the

purpose of compensating image vibrations and simultaneously reducing the power consumption.

13. Claim 1 and 9, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama (U.S. Patent No. 4,498,741, submitted by applicant) in view of Suzuki (U.S. Patent No. 6,025,962).

Ishiyama discloses a zoom lens system having five lens units of a first positive power, a second negative power, a third positive power, a fourth negative power and a fifth positive power arranged in that order from an object side. During a zooming process, from a wide angle to a telephoto position, the distance between the first and second lens units is increased; the distance between the second and third lens units is decreased; the distance between the third and fourth lens units is increased; and the distance between the fourth and fifth lens units is decreased. See columns 2-3 and the first embodiment. However, Ishiyama does not teach that the fourth lens unit is decentered with respect to the optical axis for the purpose of compensating image blurs caused by vibrations. The use of a compensating mechanism for decentering a lens unit for the purpose of compensating image blurs caused by vibrations is known in the art. For instance, Suzuki discloses a zoom lens system for use with an optical apparatus (see columns 1-2) wherein the zoom lens system comprises five lens units arranged in an order from an object side as follow: a first positive lens unit, a second negative lens unit, a third positive lens unit, a fourth negative lens unit and a fifth positive lens unit. In a zooming process from a wide angle to a

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telephoto position, the distance between the first and second lens units is increased; the distance between the second and third lens units is decreased; the distance between the third and fourth lens units is increased; and the distance between the fourth and fifth lens units is decreased. In an image stabilization process, the fourth lens unit is moved in a direction perpendicular to the optical axis of the zoom lens system. See figures 1 and 4 and columns 14-16. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the zoom lens system provided by Ishiyama by decentering the fourth lens unit as suggested by Suzuki for the purpose of compensating image blurs caused by vibrations.

14. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama in view of Suzuki as applied to claims 1 and 9 above, and further in view of Yamamoto.

The combined product as provided by Ishiyama and Suzuki does not clearly state that the system comprises an electronic conversion element disposed for receiving the image provided by the zoom lens. However, such use of a photoelectric conversion element for receiving an image provided by the zoom lens is considered as an inherent feature from the system provided by Suzuki. If it is not inherent then the use of an optical apparatus having a zoom lens of five lens units and a charged-coupled device located to receive the image provided by the zoom lens is clearly disclosed in the art of Yamamoto. See column 1, for example. Thus, it would have been obvious to one skilled in the art at time the

invention was made to utilize a charged-coupled device positioned after a zoom lens as suggested by Yamamoto in the optical apparatus having a zoom lens with image compensating function of Ishiyama and Suzuki for the purpose of receiving the image formed by the zoom lens.

15. Claims 3-4, 6 and 8, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama in view of Suzuki as applied to claim 1 above, and further in view of Yamazaki.

The combined product as provided by Ishiyama and Suzuki does not disclose that the negative lens component of the fourth lens unit is moved for compensating image vibrations.

The use of a lens unit having two lens subunits wherein the whole lens unit or one lens subunit is moved in a direction perpendicular to the optical axis of the zoom lens for compensating image vibrations is known to one skilled in the art as can be seen in the zoom lens system provided by Yamazaki. Even though the zoom lens system provided by Yamazaki is a two-lens units zoom lens; however, in the lens unit selected as the compensating lens unit, Yamazaki teaches that the whole lens unit or just a part of the lens unit can be used as a compensation lens element. The part of the lens unit to be moved can be a negative lens subunit (I-1) or a positive lens subunit (I-2). See column 3 and figs. 1-3. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the five-unit zoom lens of Ishiyama and Suzuki by decentering/moving only the part of lens component having negative power as

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suggested by Yamazaki for the purpose of compensating image vibrations and simultaneously reducing the power consumption.

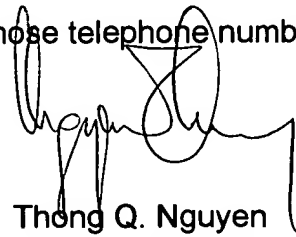
Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references are cited as of interest in that each discloses a five-unit zoom lens system wherein the fourth lens unit is selected as a compensating lens unit.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen
Primary Examiner
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May 13, 2002